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ORIGINAL INVESTIGATION

Personality trait development in midlife: exploring the impact of psychological turning points

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Abstract This study examined long-term personality trait development in midlife and explored the impact of psychological turning points on personality change. Self-defined psychological turning points reflect major changes in the ways people think or feel about an important part of their life, such as work, family, and beliefs about themselves and about the world. This study used longitudinal data from the Midlife in the US survey to examine personality trait development in adults aged 40–60 years. The Big Five traits were assessed in 1995 and 2005 by means of self-descriptive adjectives. Seven types of self-identified psychological turning points were obtained in 1995. Results indicated relatively high stability with respect to rank-orders and mean-levels of personality traits, and at the same time reliable individual differences in change. This implies that despite the relative stability of personality traits in the overall sample, some individuals show systematic deviations from the sample mean-levels. Psychological turning points in general showed very little influence on personality trait change, although some effects were found for specific types of turning points that warrant further research, such as discovering that a close friend or relative was a much better person than one thought they were.

Keywords Personality traits · Personality development · Midlife · Turning points

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Introduction

Given the centrality of midlife within the lifespan, surprisingly little is known about personality trait development within this unique period of life (Helson et al. 2006). One reason for this is that, traditionally, middle adulthood has been considered as a time of relative stability in many realms of life. Although this might hold true to some extent, midlife is at the same time a challenging and complex period with diverse biosocial changes (cf. Lachman 2004). For example, middle-aged adults generally hold multiple social roles (e.g., spouse, parent, worker) with widest responsibilities. However, the number and the nature of these roles change systematically during this time (Helson and Soto 2005). Middle adulthood is also regarded in terms of gradual physical decline, along with the awareness of this decline and of the finiteness of the opportunities, and of life itself (Brim et al. 2004a). However, what is most striking for this period is the wide variability in the nature and course of midlife (Lachman 2001; Willis and Martin 2005). For example, some individuals experience specific positive life events such as becoming parents or getting a promotion, whereas others are subject to negative life events such as getting divorced or losing the job. Other people, in turn, report multiple events, whereas again others do not exhibit any major change in life circumstances. As the result of diverse and variable individual experiences in midlife, people may

demonstrate unique patterns of change at the individual level, whereas at the overall sample level, personality traits show considerable stability. In this study, we extended previous research on personality trait development by exploring the impact of self-identified psychological turning points (SPTPs) on changes in personality traits. It is an open question whether such events are related to personality trait development in midlife.

Personality trait development in midlife

There is now a large and growing literature that documents that personality trait development in adulthood is characterized both by change and stability, depending on the perspective of change one considers (Edmonds et al. 2008; Roberts et al. 2008). For example, research has shown that personality traits demonstrate relatively high structural stability, i.e., constant correlations among personality factors within measurement occasions, implying that the positioning of traits relative to each other remains stable and are unaffected by age and aging (Allemand et al. 2008, 2007). Moreover, research demonstrated high levels of rank-order stability, i.e., high correlations within personality factors across measurement occasions, implying that individuals keep their ranking in a reference group over time (Roberts and DelVecchio 2000; Terracciano et al. 2006). At the same time, previous research demonstrated systematic age differences and age-related changes in the mean-levels of personality traits in adulthood (Donnellan and Lucas 2008; Jackson et al. 2009; Roberts et al. 2006). The general picture that evinced from both cross-sectional and longitudinal research suggests that individuals particularly in early adulthood tend to increase in socially desirable traits such as Agreeableness and Conscientiousness, and to decrease in Neuroticism, whereas mixed results are found with respect to Extraversion and Openness to experience. Openness tends to increase in early adulthood but shows moderate decreases in old age. Results for Extraversion are less consistent (cf. Roberts et al. 2006). The largest part of previous research on personality trait development, however, focused on early adulthood or contrasted younger and older adults, omitting middle adulthood.

In contrast to mean age trends in personality traits, previous research also demonstrated reliable individual-level change in adulthood (Bleidorn et al. 2009; Lüdtke et al. 2009; Mroczek and Spiro 2003). These systematic deviations from the sample mean-levels suggest variability in the degree and direction of personality trait change (cf. Baltes et al. 1977). In this context, variability reflects the plurality and diversity in life experiences individuals can encounter throughout the life span such as getting married or getting fired from job. Specific events might lead to different personality trajectories for individuals, which can help to explain the magnitude of stability coefficients and mean-level changes.

To date, very few studies have investigated longitudinal personality trait development in response to life experiences and distinct life events, and the reported effects are only modest with inconsistent results across studies (Costa et al. 2000; Löckenhoff et al. 2009; Magnus et al. 1993; Vaidya et al. 2002). For example, Costa et al. (2000) investigated the occurrence of specific life events in a sample of 2,274 middle-aged adults. Results revealed the overall number of life events to be virtually unrelated to personality change, although some small effects emerged for changes in job and marital status. A recent study examined the impact of very stressful events on personality trait change in a sample of 458 adults over 8 years (Löckenhoff et al. 2009). Participants who had reported extremely adverse events 2 years before T2 showed an increase in Neuroticism, a decrease in the compliance facet of Agreeableness, and a decrease in Openness to experience. Apart from these two studies, the other studies (Magnus et al. 1993; Vaidya et al. 2002) relied on student samples with, on average, less severe events.

Self-identified psychological turning points

In order to broaden previous research on personality trait development in response to life events, this study adds the construct of turning points. There are different approaches to investigate turning points. For example, traditional developmental psychology focused on developmental turning points and life stages including transitions, whereas other approaches particularly examined life events or specific circumstances that may precipitate turning points (Clausen 1995; Cohen 2008; Elder 1986; Elder and Giele 2009; Wheaton and Gotlib 1997). Moreover, previous research on psychological turning points has mainly focused on personal growth or stress-related growth as possible outcomes of turning points. This study focused on changes in personality traits, rather than changes in attitudes and beliefs about the self. Wethington (2003) defined SPTP as perceived, long-lasting *major changes* in how people view themselves and their lives, and learn new things about themselves and others. Other researchers define SPTP more broadly as change in direction of one's life trajectory as perceived by the person (Wheaton and Gotlib 1997). From a narrative perspective, SPTP may represent the narrative reconstruction and storied understanding of past episodes that marked important changes in the self and the life story (McAdams 1996, 2008). The difference between SPTP and life experiences or life events lies in the constitutive nature of the former with its subjective perception of a long-lasting alteration in the further life trajectory of the self (Wethington 2003;

Wethington et al. 2004). For instance, life experiences or events such as changing jobs can possibly lead to long-lasting major changes, but not necessarily. Furthermore, the mechanisms that would drive life events to change personality traits most likely involve a continual environmental influence (Roberts and Jackson 2008). In this vain, SPTP offers a useful contrast between distinct life events since SPTPs are personally relevant for the individual and will affect the way a person thinks about and interprets the world across time (Wethington 2003).

The present study

This study had two objectives. The first objective was to study personality trait development over 10 years in midlife. Since midlife covers a large portion of an individual lifespan, we narrowed our study to adults aged between 40 and 60 years, which reflects the core of midlife (cf. Brim 2000). We investigated personality trait development from three different perspectives: (1) rank-order stability, (2) mean-level change, and (3) individual differences in mean-level change. The second objective was to extend previous research on personality trait development in response to life experiences and events. More specifically, we explored the impact of seven SPTP on the three personality trait development perspectives. Predictions for the SPTP were difficult to deduce, as the only relevant findings refer to life experiences (Vaidya et al. 2002), distinct life events (Costa et al. 2000; Magnus et al. 1993), or extremely adverse life events (Löckenhoff et al. 2009), which are all conceptually distinct from SPTP. Building upon the key characteristic of SPTP, namely, the perception of long-lasting major changes in one's life, it is plausible to expect an effect of turning points on baseline personality (T1) as well as on personality change.

Method

Sample and procedure

The data for this study come from the Midlife in the US (MIDUS) survey, which was designed to investigate the role of behavioral, psychological, social, biological, and neurological factors in understanding age-related differences and changes in physical and psychological health, and social responsibility (cf. Brim et al. 2004b). The survey started in 1995 (T1), followed by a reassessment approximately 10 years later in 2005 (T2). MIDUS is a national probability sample, drawn with random-digit dialing procedures, that consists of English-speaking, non-institutionalized adults aged 25–74 years with at least one telephone per household. The sample was stratified by age and sex, with oversampling of older people and of men. The response rate was 71% with a sample size of $N =$ 3,487 respondents (for more details on MIDUS, see Brim et al. 2004b).

This study exclusively focused on middle-aged participants. Since the MIDUS study defines the core of midlife as the years between 40 and 60 (cf. Brim 2000), only this age group was considered for this study. Of the originally 1,460 middle-aged participants aged between 40 and 60 years at T1, 1,186 participants were reassessed at T2 (81.2%), leaving 892 respondents (61.1%) with complete data records for the personality trait variables at T1 and T2. The degree of missing values in SPTP ranged from 10 (i.e., upset for friend) to 18% (i.e., give up dream). The sample consisted of 407 men (45.6%) and 485 women (54.4%). The average age at T1 was 49.6 years (SD = 5.9). Attrition analyses have shown that those participants who were included in this study were more likely to be female ($\chi^2(1) = 5.69, p < .05$), more conscientious at T1 ($d = .19$) and had experienced more "career" ($\chi^2(1) = 4.14$, $p < .05$) and "upset for friend" ($\chi^2(1) = 6.20$, $p < .05$) turning points than those participants who dropped out. However, the magnitude of these differences was rather small.

Measures

Personality traits

The Big Five personality traits were measured at T1 and T2 using 25 self-descriptive adjective items (Lachman and Weaver 1997) selected from existing trait lists and inventories (e.g., Goldberg 1992). Each of the five personality traits was assessed with between four and seven adjectives on four-point scales, ranging from *a lot* (1) to *not at all* (4). Alpha internal consistency coefficients for Neuroticism, Extraversion, Openness to experience, and Agreeableness were all acceptable, with reliabilities above .70 for both time points. The alpha reliabilities for Conscientiousness were .58 and .61. For more details on the development of the personality trait scales in MIDUS, see Lachman and Weaver (1997) and Prenda and Lachman 2001).

Self-identified psychological turning points

At T1, participants were asked to identify whether they had experienced turning points in the past 12 months. SPTP can be either positive or negative in character. First, participants were given the following definition of SPTP: "Psychological turning points are *major changes* in the ways people feel or think about an important part of their life, such as work, family, and beliefs about themselves and about the world. Turning points involve people changing

their feelings about how *important* or *meaningful* some aspect of life is or how much *commitment* they give it." Participants were then asked to identify seven specific types of SPTP in the last 12 months: (1) *career*—a turning point that involves the job or career; (2) *upset for friend*—a turning point that involves learning that a close friend or relative is not the person one thought they were either for the better or for the worse; (3) *happy for friend*—a turning point that involves discovering that a close friend or relative was a much better person than one thought they were; (4) *upset for self*—a turning point that involves learning upsetting things about oneself; (5) *happy for self*—a turning point that involves discovering important good things about oneself; (6) *give up dream*—a turning point that involves giving up an important dream; and (7) *fulfill dream*—a turning point that involves the fulfillment of a special dream (for further information, see Wethington et al. 2004). Participants indicated whether they had experienced a particular SPTP (status of occurrence: *yes* = 1 or *no* = 0) (for a similar approach, see Löckenhoff et al. 2009). In addition, we were also interested in the *overall number* of experienced turning points. Therefore, occurrence rates of the seven SPTPs were summed to compute an index of total turning points (min = 0, max = 7).

Statistical analyses

Rank-order stability of the Big Five personality traits was measured by computing correlations between the assessments at T1 and T2. The mean rank-order stability index across all personality traits was calculated using the Fisher's *r*-to-*z* transformation approach. In order to examine the impact of SPTP on rank-order stability, test–retest correlations of those participants who experienced SPTP were compared with those who did not.

Repeated measures analysis of covariance (ANCOVA) was used to analyze mean-level change in personality traits. Because of potential age effects due to the relatively broad age range of 20 years (cf. Roberts et al. 2006), and because of potential gender effects on personality trait development, age and gender were controlled.[1] The assumption of homogeneity of variance was tested using the Levene statistic, revealing no large violations. In order to examine the influence of SPTP on mean-level trait differences at baseline (T1) and mean-level trait change (repeated measures), ANCOVA's were performed for each of the SPTP with their occurrence (*yes* or *no*) as independent variable. Again, age and gender were controlled.

The Reliable Change Index (RCI; e.g., Jacobson and Truax 1991) was used to analyze individual differences in mean-level personality trait change in midlife. In order to calculate the RCI, each participant's score at T1 is subtracted from the same participant's score at T2. This result is divided by the standard error of the difference between the two test scores, which can be computed using the standard error of measurement (for details, see Jacobson and Truax 1991, p. 14). The standard error of the difference score represents the spread of the distribution of change scores that would be expected if no actual change had occurred. RCI scores smaller than −1.96 or larger than 1.96 are unlikely to occur without true change and are thus considered reliable. Moreover, if change was random, then one would expect the distribution of RC scores to be normally distributed, with approximately 2.5% below −1.96, 2.5% above 1.96, and 95% of the participants remaining the same. Finally, the influence of SPTP on individual differences in personality trait change was explored.

Effect sizes for mean differences were estimated using Cohen's d and η^2 with d-values of .2, .5, and .8, and η^2-values of .0099, .0588, and .1379 corresponding to small, medium, and large effect sizes, respectively (Cohen 1988). If not otherwise specified, the α-level was set to 1% in order to evaluate statistical significance, because of the exploratory nature of this study.

Results

The descriptive statistics for SPTP are described in Table 1. More than a third of participants (34.1%; of those participants 55.3% were women) indicated that they had experienced a career turning point in the last 12 months. Only 9.6% indicated that they had given up a dream in the last 12 months. Of those participants, the majority (81.4%) was female. The overall mean of turning points was 1.31 (Md = 1.00, SD = 1.61, range = 0–7).

Rank-order stability of personality traits

Table 2 shows the stability correlations over 10 years for each personality trait.[2] In general, rank-order stability was relatively high with correlations ranging from .62 (Conscientiousness) to .70 (Openness to experience). The mean

[1] The correlations between personality traits and age and gender (1 = men, 2 = women), respectively, were at T1 and T2 (in brackets): Neuroticism: −.11, .15, (−.17, .16); Extraversion: .10, .02, (.12, .03); Openness to experience: .06, −.08, (.04, −.07); Agreeableness: .14, .24, (.13, .27); and Conscientiousness: .03, .08, (.02, .08). Values ≥ |.07| are statistically significant at $p < .05$.

[2] Controlling for age and gender by means of partial correlations did not significantly reduce or enhance the rank-order stability coefficients: Neuroticism: .64; Extraversion: .69; Openness to experience: .70; Agreeableness: .64; and Conscientiousness: .62.

Table 1 Descriptive statistics of self-identified psychological turning points

Types of turning points	Experienced			Not experienced		
	N	%	% women	*N*	%	% women
1. Career	275	34.1	55.3	532	65.9	52.8
2. Upset for friend	186	23.0	60.8	624	77.0	51.6
3. Happy for friend	118	14.6	63.6	691	85.4	52.5
4. Upset for self	131	16.2	61.8	676	83.8	51.6
5. Happy for self	133	16.9	60.2	654	83.1	51.8
6. Fulfill dream	179	22.3	57.0	623	77.7	52.6
7. Give up dream	70	9.6	81.4	658	90.4	51.1

Note: The degree of missing values regarding the reported turning points ranged from 10 (i.e., upset for friend) to 18% (i.e., give up dream)

Table 2 Rank-order stability and mean-level change in personality traits

	r_{12}	T1		T2		*d*
		M	SD	*M*	SD	
Neuroticism	.65***	2.22	0.67	2.05	0.62	−.26
Extraversion	.69***	3.18	0.57	3.11	0.58	−.12
Openness	.70***	3.06	0.53	2.97	0.54	−.17
Agreeableness	.67***	3.48	0.49	3.45	0.49	−.06
Conscientiousness	.62***	3.47	0.44	3.49	0.45	.04

Note: $N = 892$; d = Cohen's d (mean of T2 − mean of T1/pooled standard deviation). Note that age and gender were controlled in the repeated measures ANCOVA

*** $p < .001$

rank-order stability index across all personality traits was $r_{12} = .67$. These findings imply that individual differences in change of personality traits exist, because rank-order stability was less than perfect.

In addition, test–retest correlations were separately performed for those participants having experienced SPTP and those without any turning points. Participants reporting a "happy for friend" turning point had significantly lower stability coefficients in neuroticism than those without this turning point ($r = .45$ vs. $r = .69$, Fisher's $Z = 3.56$, $p < .01$). Apart from this exception, psychological turning points revealed little impact on rank-order stability of personality traits.

Mean-level change and mean-level differences in personality traits

Means and standard deviations for the Big Five personality traits at T1 and T2 are depicted in Table 2. The results of the repeated measures ANCOVA did not show any significant mean-level changes in personality traits, that is, none of the traits increased or decreased over time. Cohen's d's ranged from .04 (Conscientiousness) to −.26 (Neuroticism) and reflected small effects.

In order to examine whether participants who experienced SPTP differed in their personality trait mean-levels at baseline (i.e., T1) and longitudinally from those who did not, the analyses were performed for each type of turning point. Means and standard deviations for significant mean-level differences in personality traits at T1 as a function of turning points are depicted in Table 3. At T1, those participants who reported the turning point "upset for a friend" were on average more extraverted, $F(1, 806) = 8.54$, $p < .01$, $\eta^2 = .01$. Group differences were also found at T1 with respect to the turning point "happy for a friend" for Extraversion, $F(1, 805) = 8.12$, $p < .01$, $\eta^2 = .01$, and Openness, $F(1, 805) = 7.16$, $p < .01$, $\eta^2 = .009$, with those participants having experienced this particular turning point being more extraverted and open as compared to those without this turning point. Those participants who reported a "happy for self" turning point were more open to experience at T1, $F(1, 783) = 11.60$, $p < .01$, $\eta^2 = .015$. Finally, those who had experienced fulfillment of a dream were more extraverted at T1, $F(1, 798) = 11.05$, $p < .01$, $\eta^2 = .014$, and more open, $F(1, 798) = 21.16$, $p < .001$, $\eta^2 = .026$. In general, however, these mean-level differences at T1 with respect to different types of SPTP were small. Correlations between the overall number of experienced turning points and personality traits at T1 were: Neuroticism: .08; Extraversion: .09; Openness to experience: .12; Agreeableness: .04; and Conscientiousness: .01. Values $\geq |.08|$ are statistically significant at $p < .05$.

In contrast to the findings at T1, the investigation of longitudinal mean-level change in personality traits depending on the type of SPTP did not show any significant differences. Predictive correlations between the overall number of experienced turning points and personality traits at T2 were: Neuroticism: .09; Extraversion: .06; Openness to experience: .09; Agreeableness: −.01; and Conscientiousness: .02. Values $\geq |.08|$ are statistically significant at $p < .05$.

Individual differences in mean-level change in personality traits

Irrespective of mean-level stability in personality traits over time, some people might change more or less than the norm. Hence, individual differences in change reflect deviations from the overall, mean-level patterns. In order to test whether a given study participant exhibited reliable personality trait change over time, RCIs were computed for each trait. Then, participants were classified as reliable increasers, reliable decreasers, or nonchangers. Table 4

Table 3 Selected results for mean-level differences in personality traits at T1 as a function of turning points

Turning points	Extraversion (T1)		Openness (T1)	
	Experienced	Not experienced	Experienced	Not experienced
Upset for friend	3.26 (0.54)	3.14 (0.58)	–	–
Happy for friend	3.31 (0.57)	3.14 (0.57)	3.17 (0.54)	3.04 ((0.53)
Happy for self	–	–	3.18 (0.52)	3.03 (0.53)
Fulfill dream	3.29 (0.54)	3.13 (0.57)	3.21 (0.49)	3.01 (0.54)

Note: Standard deviations are depicted in brackets

Table 4 Individual differences in personality trait change

	Decreased (%)	No change (%)	Increased (%)	$\chi^2(2)$
Neuroticism	9.1	88.5	2.4	158.48***
Extraversion	7.5	88.7	3.8	99.49***
Openness	8.6	87.5	3.9	146.77***
Agreeableness	10.9	80.2	8.9	414.77***
Conscientiousness	2.1	96.3	1.6	$3.74^{n.s.}$

Note: $N = 892$; percentages for decrease, increase, and no change were based on the reliable change index (i.e., change greater than 1.96 or less than −1.96 is considered reliable change). The chi-square tests whether the observed distribution of changers and nonchangers would differ from the expected distribution if change were random (e.g., 2.5% each decrease and increase, 95% remain the same); *n.s.* not significance

*** $p < .001$

shows that although the vast majority of middle-aged participants (80.2–96.3%) stayed the same over the 10-year period on any given trait, a sizable minority still showed change, whether decrease or increase. The next step was to test whether individual-level change was reliable or at random: If there were no reliable changes, then one would expect approximately 5% of the sample to be classified as decreasers and increasers (cf. Jacobson and Truax 1991). As the chi-square tests indicate on Table 4, this assumption was disconfirmed for Neuroticism, Extraversion, Openness to experience, and Agreeableness. The largest percentage of changers found was 19.8% (Agreeableness), and the smallest was 11.3% (Extraversion). By contrast, individual-level change in Conscientiousness was random, since only 3.7% of the sample was categorized as changers. It appears that in the present sample of middle-aged adults; there is reliable change at least in four personality traits. Moreover, some of the Big Five personality traits show greater amount of individual differences in change than others.

An examination of the relationships between individual differences in personality trait change (changers, i.e., decreasers and increaser vs. nonchangers) and the occurrence of SPTP by type of turning points, however, did not show any significant associations.

Discussion

The first objective of this study was to investigate long-term personality trait change in a period of life that is underrepresented in the literature. In order to do so, we used longitudinal data from a large national probability sample of adults in the core midlife, and investigated personality trait development from three different perspectives. First, replicating prior findings (Roberts and DelVecchio 2000; Terracciano et al. 2006), we found medium to high rank-order stability of the Big Five personality traits over 10 years with an average stability coefficient of .67. Although rank-order stability of personality traits was relatively high, this does not imply that there are no reliable individual differences in personality change. Second, we did not find any mean-level changes in the Big Five over 10 years, which indicates a relatively high stability in terms of sample means. Altogether, these results support the traditional notion of midlife as a rather stable period of life. However, mean-level stability might mask individual-level changes in personality traits. Indeed, in line with our expectation and previous research (Bleidorn et al. 2009; Lüdtke et al. 2009; Mroczek and Spiro 2003; Roberts et al. 2008), we found reliable individual differences in personality change for four of the Big Five traits. For example, approximately 9% of the participants became more agreeable, whereas another 11% became less agreeable over time. Thus, approximately 20% of the participants exhibited substantial individual change in Agreeableness. These results are in line with research showing that variability is a key characteristic of midlife (Lachman 2001, 2004). Similar longitudinal findings are recently reported for German middle-aged adults over 12 years, showing that although relatively high stability was found at the sample level, 67% of the respondents exhibited reliable personality change on

at least one trait in one of three time periods (Lehmann et al. 2010).

Surprisingly, we did not find systematic deviations from the sample mean-level for Conscientiousness, and hence, no individual change. One of the mechanisms put forward to explain changes in Conscientiousness is the social investment principle (Roberts and Wood 2006), where investing in social roles leads to increases in Conscientiousness. Midlife is a time period in which many individuals are already entrenched in the major social roles of adulthood such as a career and family. Further increases in Conscientiousness are likely due to the addition or modification of social roles that take place with the transition into older adulthood. These involve grandparent roles, decreased investment of career goals, and increased investment in civic or religious community roles (Roberts and Wood 2006). The lack of mean-level change and individual differences may be due to the majority of individuals not yet transferring into the later stages of midlife.

The second objective of this study was to contribute to the literature by suggesting that the experience of psychological turning points is partially associated with personality trait development, although with modest effects. To the best of our knowledge, this was the first study to explore the impact of SPTP on personality trait development. The findings have shown that middle-aged participants, on average, identified one psychological turning point in the last 12 months before baseline personality assessment. The most frequently experienced type of SPTP involved changes at work or career (34.1%), which is a common turning point during the work life (for detailed analyses of work-related turning points, see Wethington 2002).

We investigated changes in personality traits due to psychological turning points with respect to three different perspectives of personality development, and found mixed results. First, with one exception the different types of SPTP were virtually unrelated to rank-order stability of the Big Five traits. Note, however, that if we set the α-level to 5% to evaluate statistical significance, three additional differences became significant, suggesting that turning points may have an influence on this type of stability. Interestingly, people who had discovered that a close friend or relative was a much better person than they had thought showed significantly lower rank-order stability in Neuroticism than those who did not report a "happy for friend" turning point. This finding implies that individual differences in change in Neuroticism were more pronounced for the former group as compared to the latter group. Although we cannot clearly deduce the direction of change, the positive nature of having experienced a "happy for friend" turning point may lead to more Emotional Stability and thus to more individual-level decreases in Neuroticism.

Second, we found short-term effects of SPTP on personality trait mean-levels at T1. Note that the time lag between the occurrence of a turning point and subsequent personality assessments was at most 12 months. More specifically, four types of turning points stood out, namely being upset for a friend, being happy for a friend, being happy for the self, and the fulfillment of dream. They were, on average, related to higher mean scores in Extraversion, and/or Openness to experience, and all except "upset for friend" reflected turning points with a positive character. Similar results were found for younger adults where positive events influenced the stability of Extraversion scores, and negative events influenced the stability of Neuroticism ratings (Vaidya et al. 2002). Apart from these short-term effects, we did not find any long-term effects of SPTP at the sample level over 10 years. However, the predictive correlations showed that the overall number of turning points was significantly although modestly related to Neuroticism (.09) and Openness to experience (.09) at T2. Future studies should consider shorter time intervals to examine the potential consequences of psychological turning points on personality traits. Time intervals that are too short or too long in relation to the nature of the phenomenon being studied can produce data that in some cases are either overly sensitive to measurement errors, or insensitive to variability and change (cf. Hertzog and Nesselroade 2003). Moreover, it would be interesting to explore the role of SPTP in earlier periods of life (i.e., childhood, adolescence, and young adulthood) that are marked, on average, by a higher degree of change in personality traits compared to midlife and old age (Roberts et al. 2006). In addition, if life events are to change personality traits, the process is likely slow (Roberts et al. 2008). Further research should assess the environment multiple times since the subjective nature of a SPTP may change over time. It is possible that the subjective impact of SPTP is not necessarily stable over longer time period and decreases with the time since the event.

Third, we did not find significant associations between individual differences in personality trait change and the types of turning points. However, variability can be determined by multiple causes (Lachman 2001, 2004; Willis and Martin 2005). For example, it is possible that some participants have experienced additional psychological turning points, life experiences or distinct life events within the 10-years interval. In accordance with recent findings on the influence of repeated life events on subjective well-being (Luhmann and Eid 2009), such events might overlap the impact of the SPTP. Hence, future studies should consider multiple measurement occasions to account for additional turning points (cf. Cohen 2008). Multiple measurements would also allow disentangling the direction of influence from SPTP to personality traits and vice versa. It is possible that people who report psychological turning points differ in

their personality from those who do not (Magnus et al. 1993), or even that the type of turning point one encounters (whether positive or negative) is partly driven by personality traits (Headey 2006). For example, research on the influence of life events on subjective well-being has shown that people who will eventually experience a major life event often differ from people who will not, even before the events occur (Lucas 2007; Luhmann and Eid 2009). Therefore, prospective longitudinal studies are necessary to separate pre-existing differences from longitudinal change. Finally, our findings might also reflect the shortcomings of the self-report assessment of SPTP by dichotomous variables. Important background information about the turning points such as their content or subjective impact on different parts of life is lacking. Future studies should consider qualitative material as well as objective measures and observer reports in order to understand the nature, causes, and consequences of SPTP on personality trait development (cf. Cohen 2008).

Despite these limitations, our findings contribute to the literature by adding initial empirical evidence for the association between SPTP and personality trait development in midlife. Overall, the modest impact of SPTP on traits is similar to those of life experiences and distinct life events (Costa et al. 2000; Magnus et al. 1993; Vaidya et al. 2002). Personality traits and psychological turning points represent different levels of personality (cf. McAdams 1996). Traits describe broad and general patterns of thoughts, feelings, and behaviors that are not tied to specific contexts. By contrast, psychological turning points reflect the narrative construction of important contextualized past episodes (McAdams 2008). In between these two levels are midlevel constructs such as goals, strivings or values, which are more contextualized than traits. It is thus plausible that SPTP may indirectly influence traits through a stronger impact on the middle level of personality in first instance. Giving up a dream in midlife, for example, might rather lead to permanent shifts in values and goals, which, in turn, affect personality traits. This issue should be addressed in future studies.

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